

## WRITING NET IONIC EQUATIONS

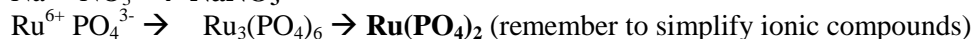
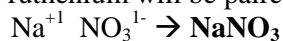
Soluble Ionic Compounds		Important Exceptions
Compounds containing	$\text{NO}_3^-$	None
	$\text{C}_2\text{H}_3\text{O}_2^-$	None
	$\text{Cl}^-$	Compounds of $\text{Ag}^+$ , $\text{Hg}_2^{2+}$ , and $\text{Pb}^{2+}$
	$\text{Br}^-$	Compounds of $\text{Ag}^+$ , $\text{Hg}_2^{2+}$ , and $\text{Pb}^{2+}$
	$\text{I}^-$	Compounds of $\text{Ag}^+$ , $\text{Hg}_2^{2+}$ , and $\text{Pb}^{2+}$
	$\text{SO}_4^{2-}$	Compounds of $\text{Sr}^{2+}$ , $\text{Ba}^{2+}$ , $\text{Hg}_2^{2+}$ , and $\text{Pb}^{2+}$
Insoluble Ionic Compounds		Important Exceptions
Compounds containing	$\text{S}^{2-}$	Compounds of $\text{NH}_4^+$ , the alkali metal cations, and $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , and $\text{Ba}^{2+}$
	$\text{CO}_3^{2-}$	Compounds of $\text{NH}_4^+$ and the alkali metal cations
	$\text{PO}_4^{3-}$	Compounds of $\text{NH}_4^+$ and the alkali metal cations
	$\text{OH}^-$	Compounds of the alkali metal cations, and $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , and $\text{Ba}^{2+}$

- First write out the proper formulas for the reactants.

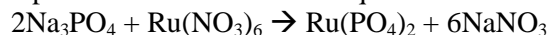
Ex: Aqueous (aq) solutions of sodium phosphate and ruthenium(VI) nitrate are reacted to form a precipitate (s).



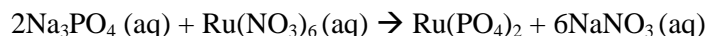
- Form the two products by switching the two cations. In the example sodium will be paired up with nitrate and the ruthenium will be paired up with phosphate. Write the correct formula for each product.



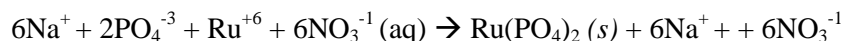
- Write the products into the reaction equation and balance.



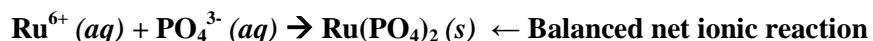
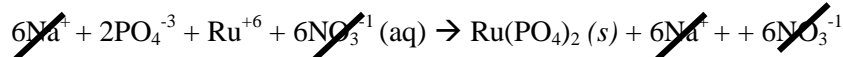
- Use your solubility rules to determine which compounds are soluble (aq) and which are not, i.e. the precipitate (s). The pertinent rule in this case is that ALL NITRATES ARE SOLUBLE. Hence, the insoluble precipitate must be ruthenium(VI) phosphate.



- Rewrite the reaction equation splitting up all of the soluble (aq) species back into ions and leave the precipitate (s) in compound form, this is the **Total Ionic Equation**.

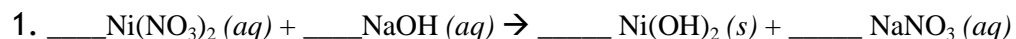


- Cross out any ions that show up on both sides of the equation, these are called spectator ions.



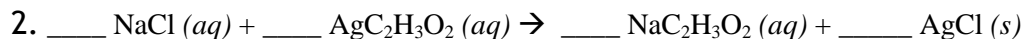
## Net Ionic Equations Practice

**BALANCE the following equations, writ the total net ionic equations, and then write the NET IONIC EQUATION for each one:**



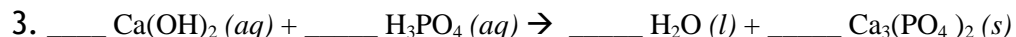
Total net ionic equation:

Net ionic equation:



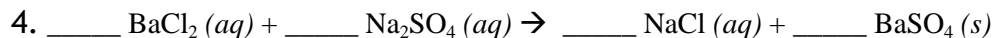
Total net ionic equation:

Net ionic equation:



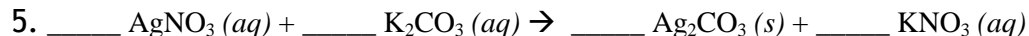
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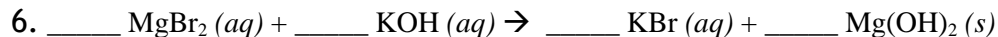
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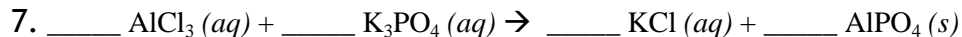
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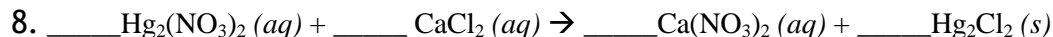
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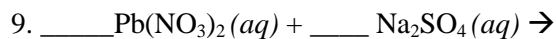
Net ionic equation:



Total net ionic equation:

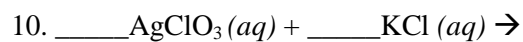
Net ionic equation:

**Using the solubility rules, predict the products, balance the equation, and write the complete ionic and net ionic equations for each of the following reactions.**



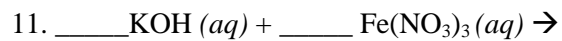
Total net ionic equation:

Net ionic equation:



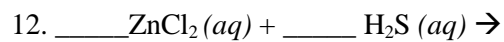
Total net ionic equation:

Net ionic equation:



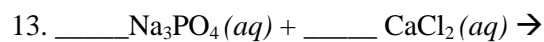
Total net ionic equation:

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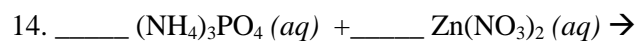
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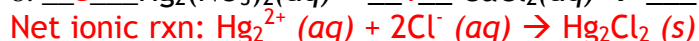
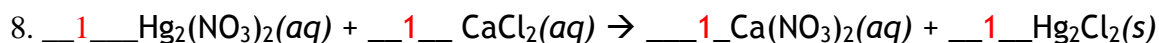
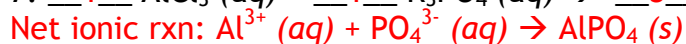
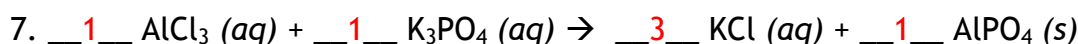
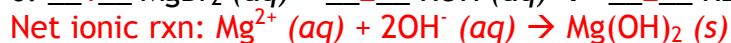
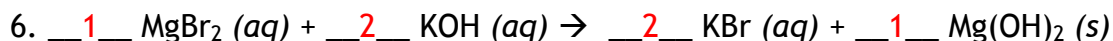
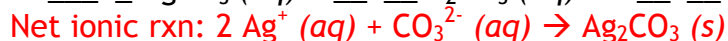
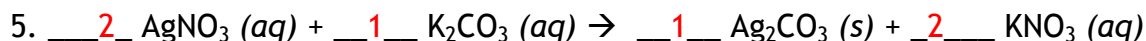
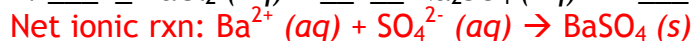
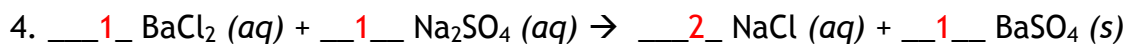
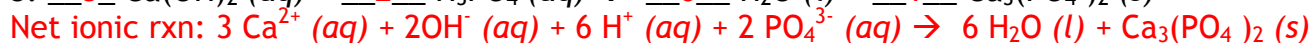
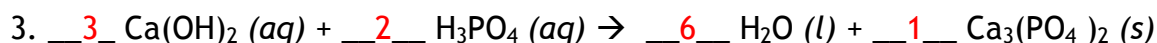
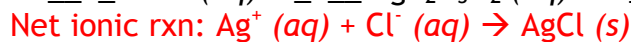
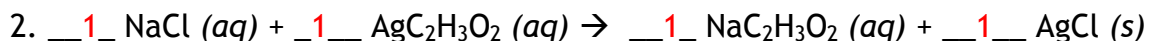
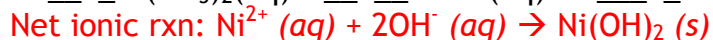
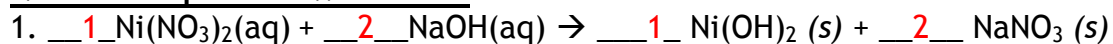


Total net ionic equation:

Net ionic equation:



## Net Ionic Equations Worksheet



Using the solubility rules, predict the products, balance the equation, and write the complete ionic and net ionic equations for each of the following reactions.

